

### **Active and reactive power control of DFIG using optimized fractional order-PI controller**

Javed, Umar; Arshad, Muhammad Asad; **Shabbir, Noman; Kütt, Lauri; Rassõlkin, Anton** 2021 IEEE 19th International Power Electronics and Motion Control Conference, The Silesian University of Technology Gliwice, Poland, 25 - 29 April, 2021 (PEMC) : proceedings 2021 / p. 398-404 <https://doi.org/10.1109/PEMC48073.2021.9432608>

### **Application of Newton's method to analog and digital realization of fractional-order controllers**

**Tepljakov, Aleksei; Petlenkov, Eduard; Belikov, Juri** International journal of microelectronics and computer science 2012 / p. 45-52 : ill [https://www.researchgate.net/publication/259741864\\_Application\\_of\\_Newton%27s\\_Method\\_to\\_Analog\\_and\\_Digital\\_Realization\\_of\\_Fractional-order\\_Controllers](https://www.researchgate.net/publication/259741864_Application_of_Newton%27s_Method_to_Analog_and_Digital_Realization_of_Fractional-order_Controllers)

### **Design of a MATLAB-based teaching tool in introductory fractional-order systems and controls [Electronic resource]**

**Tepljakov, Aleksei; Petlenkov, Eduard; Gonzalez, Emmanuel A.; Petraš, Ivo** 2017 IEEE Frontiers in Education Conference (FIE) : proceedings 2017 / 4 p. : ill [USB] <https://doi.org/10.1109/FIE.2017.8190681>

### **Digital fractional-order control of a position servo**

**Tepljakov, Aleksei; Petlenkov, Eduard; Belikov, Juri; Astapov, Sergei** Proceedings of the 20th International Conference Mixed Design of Integrated Circuits and Systems : MIXDES 2013, Gdynia, Poland, June 20-22, 2013 2013 / p. 462-467 : ill

### **Digital implementation of retuning fractional controllers for an existing closed-loop magnetic levitation control system**

**Tepljakov, Aleksei; Petlenkov, Eduard; Belikov, Juri** 2016 39th International Conference on Telecommunications and Signal Processing : TSP : June 27-29, 2016, Vienna, Austria 2016 / p. 630-633 : ill <https://doi.org/10.1109/TSP.2016.7760958>

### **Digital realization of retuning fractional-order controllers for an existing closed-loop control system**

**Tepljakov, Aleksei; Petlenkov, Eduard; Gonzalez, Emmanuel A.; Belikov, Juri** Journal of circuits, systems, and computers 2017 / art. 1750165, p. 1-26 <https://doi.org/10.1142/S0218126617501651> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Extended fractional singular Kalman filter**

**Nosrati, Komeil; Belikov, Juri; Tepljakov, Aleksei; Petlenkov, Eduard** Applied mathematics and computation 2023 / art. 127950, 15 p. : ill <https://doi.org/10.1016/j.amc.2023.127950> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **A flexible MATLAB tool for optimal fractional-order PID controller design subject to specifications**

**Tepljakov, Aleksei; Petlenkov, Eduard; Belikov, Juri** Proceedings of the 31st Chinese Control Conference : July, 2012, Hefei, China 2012 / p. 4698-4703 : ill [https://www.researchgate.net/publication/259741861\\_A\\_Flexible\\_MATLAB\\_Tool\\_for\\_Optimal\\_Fractional-order\\_PID\\_Controller\\_Design\\_Subject\\_to\\_Specifications](https://www.researchgate.net/publication/259741861_A_Flexible_MATLAB_Tool_for_Optimal_Fractional-order_PID_Controller_Design_Subject_to_Specifications)

### **FOMCON : fractional-order modeling and control toolbox for MATLAB**

**Tepljakov, Aleksei; Petlenkov, Eduard; Belikov, Juri** Proceedings of the 18th International Conference Mixed Design of Integrated Circuits and Systems : MIXDES 2011 : Gliwice, Poland 16 - 18 June, 2011 2011 / p. 684-689 [https://www.researchgate.net/publication/259741855\\_FOMCON\\_a\\_MATLAB\\_toolbox\\_for\\_fractional-order\\_system\\_identification\\_and\\_control](https://www.researchgate.net/publication/259741855_FOMCON_a_MATLAB_toolbox_for_fractional-order_system_identification_and_control)

### **FOMCONpy: Fractional-order modelling and control library for python**

**Onyedi, Tobeckuwu; Tepljakov, Aleksei; Petlenkov, Eduard** 2020 43rd International Conference on Telecommunications and Signal Processing : TSP 2020, Milan, Italy, July 7-9, 2020 2020 / p. 239-245 <http://doi.org/10.1109/TSP49548.2020.9163581>

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**Tepljakov, Aleksei; Vunder, Veiko; Petlenkov, Eduard; Nakshatharan, S Sunjai; Punning, Andres; Kaparin, Vadim; Belikov, Juri; Aabloo, Alvo** Smart materials and structures 2019 / 12 p. : ill <https://doi.org/10.1088/1361-665X/ab2c75> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Incorporation of fractional-order dynamics into an existing PI/PID DC motor control loop**

**Tepljakov, Aleksei; Gonzales, Emmanuel A.; Petlenkov, Eduard; Belikov, Juri; Monje, Concepcion A.; Petraš, Ivo** ISA transactions 2016 / p. 262-273 : ill <https://doi.org/10.1016/j.isatra.2015.11.012> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Numerical solution of a class of fractional delay differential equations via haar wavelet**

Aziz, Imran; Amin, Rohul; **Majak, Jüri** Proceedings of the 11th International Conference of DAAAM Baltic Industrial Engineering : 20-22th April 2016, Tallinn, Estonia 2016 / p. 8-12 <http://innomet.ttu.ee/daaam/>

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**Nosrati, Komeil; Belikov, Juri; Tepljakov, Aleksei; Petlenkov, Eduard** IEEE Control Systems Letters 2023 / p. 1075 - 1080 <https://doi.org/10.1109/LCSYS.2022.3230773> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Retrofitting fractional-order dynamics to an existing feedback control system : from classical proportional-integral (PI) control to fractional-order proportional-derivative (FOPD) control**

Gonzalez, Emmanuel A.; **Tepljakov, Aleksei**; Monje, Concepcion A.; Petráš, Ivo International research journal on innovations in engineering, science and technology 2017 / 6 p [https://www.researchgate.net/publication/325989325\\_Retrofitting\\_Fractional-Order\\_Dynamics\\_to\\_an\\_Existing\\_Feedback\\_Control\\_System\\_From\\_Classical\\_Proportional-Integral\\_PI\\_Control\\_to\\_Fractional-Order\\_Proportional-Derivative\\_FOPD\\_Control](https://www.researchgate.net/publication/325989325_Retrofitting_Fractional-Order_Dynamics_to_an_Existing_Feedback_Control_System_From_Classical_Proportional-Integral_PI_Control_to_Fractional-Order_Proportional-Derivative_FOPD_Control)

**Towards industrialization of FOPID controllers : a survey on milestones of fractional-order control and pathways for future developments**

**Tepljakov, Aleksei**; Alagoz, Baris Baykant; Yeroglu, Celaledin; Gonzalez, Emmanuel A.; HosseinNia, Hassan; **Petlenkov, Eduard**; **Ates, Abdullah**; **Cech, Martin** IEEE Access 2021 / p. 21016-21042 <https://doi.org/10.1109/ACCESS.2021.3055117> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Tuning and digital implementation of a fractional-order PD controller for a position servo**

**Tepljakov, Aleksei**; **Petlenkov, Eduard**; **Belikov, Juri**; **Astapov, Sergei** International journal of microelectronics and computer science 2013 / p. 116-123 : ill